

# TW-47 2-Way Radio Interface

Analog Partyline Solutions

Linking  
People  
Together



TW-47

## Key Features and Benefits

- Interfaces any 2-way radio to a Clear-Com, RTS®, or compatible system
- Accepts any walkie-talkie
- Powered by the intercom line
- Easy to interconnect
- Individual transmit and receive level controls
- Bi-color LED audio level indicator
- Small footprint—will fit anywhere

Clear-Com Encore® is a 2-wire analog partyline system with intuitive plug-and-play design and superior “Clear-Com Sound.”

## Description

The TW-47 is a stand-alone interface designed to connect a 2-way radio or walkie-talkie into a single channel of a standard Clear-Com, RTS\*, or compatible 2-wire party-line intercom system. It provides both audio connection and “push-to-talk” transmitter keying, using standard Call signals.

The ability of a 1- to 5- watt walkie-talkie to both talk to and receive from the wired intercom system can greatly extend an intercom system’s capability, especially in very large indoor and outdoor facilities and venues. The TW-47 is powered directly from the intercom line, and connection to the radio is via a single DB-9F 9-pin connector. The interface has extensive RF and EMI isolation to prevent the 2-way radio RF from radiating into the intercom system.

## Interfacing

In order to accommodate the widest variety of 2-way radios, the TW-47 is supplied with a 9-pin connector and wiring diagrams for many 2-way radios.

The combination of internal jumpers (switches) and front panel “Transmit” and “Receive” level controls assures correct level matching to virtually any radio. Adjustments from -57 dB microphone level to +11 dB line level are supported. A bi-color LED provides a visual indication of audio level from the intercom line.

## Radio Transmitter ‘Keying’

A relay contact provides the required “Push-to-Talk” transmitter “keying” of the radio. This relay is activated by detecting the “Call Signal” on the intercom channel. The relay contacts, in conjunction with the custom-made radio cable, allow correct transmitter keying of virtually any type of radio. A “Transmit Key” LED indicates that the relay is active.

Certain Clear-Com stations can be set up so that the Call signal is activated automatically when the Talk button is pressed (Talk-on-Call). With these stations, the radio transmitter can be keyed by simply pushing the Talk button. The operation of the 2-way radio then becomes seamless and transparent to station users.

*\* For RTS systems equipped with the Call Light feature.*

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## Technical Specifications

dBu is an absolute measurement. 0dBu is referenced to 0.775 volts RMS

### Radio to Party Line

#### Line Characteristics

Frequency Response: 200-20kHz  $\pm$  3dB

Max Gain:  $\geq$ -5dBu

Distortion:  $\leq$ 0.3%

Noise:  $\leq$ -70dBu

Max Level Before Clipping:  $\geq$ +17dBu

Green LED Threshold: -22dBu  $\pm$  3dB

Red LED Threshold: -16dBu  $\pm$  3dB

Input Impedance: 400 $\Omega$   $\pm$  100 $\Omega$

### Partyline to Radio

#### Line Characteristics

Frequency Response: 200-8kHz  $\pm$  3dB

Max Gain J7 ON, J8 ON: -12dBu  $\pm$  3dB

Max Gain J7 OFF, J8 ON: +2dBu  $\pm$  3dB

Max Gain J7 OFF, J8 OFF: +27dBu  $\pm$  3dB

Distortion:  $\leq$ 0.3%

Noise:  $\leq$ -50dBu

Max Level Before Clipping:  $\geq$ 0dBu

### Power Requirements

Input Voltage Range: 20-30V DC

Quiescent Current:  $\leq$ 40mA

Current with Audio:  $\leq$ 50mA

Current with Call:  $\leq$ 60mA

### Rear Panel Connectors

(1) XLR3F

(1) DB-9F

### Front Panel Controls and Indicators

Transmit: (1) Red LED

Audio Level Hi: (1) Red LED

Audio Level Norm: (1) Green LED

Receive Level Adjust: (1) Control

Transmit Level Adjust: (1) Control

### Dimensions

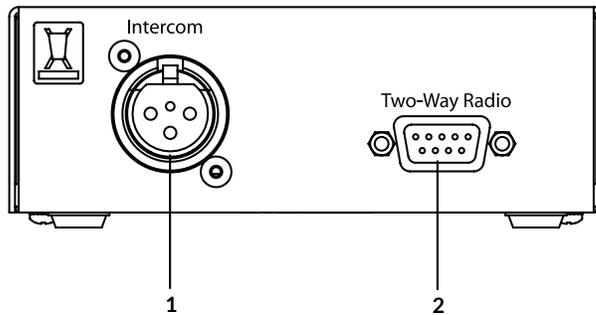
1.8 x 3.95 x 6.4in (WxHxD)

(46 x 100 x 163mm)

### Weight

1lbs 4oz (0.6kg)

## TW-47 Rear Panel



## Legend

### Rear

1. Intercom line connector
2. Two-way radio connector

## Order Code

TW-47



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